

SEL-2507

High-Speed Remote I/O Module



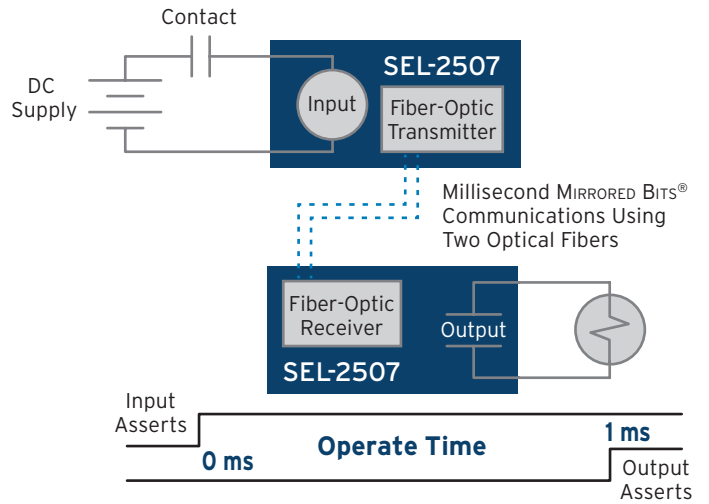
Ultra-fast 1 ms remote control and teleprotection

- Implement Millisecond MIRRORING BITS® communications transmission that is four times faster than previous remote I/O applications.
- Add bus protection, secure communications, and trip and close coil monitoring in a simple, cost-effective solution.
- Replace control wiring outside cabinets with fiber-optic cable, increasing site safety.



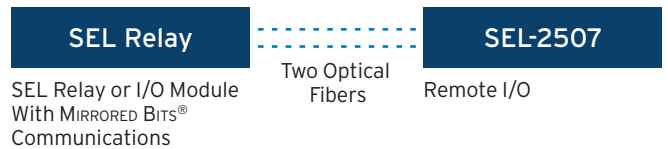
Functional Overview

The SEL-2507 High-Speed Remote I/O Module has eight inputs, eight high-speed outputs, and an optional fiber-optic communications port. Connect the SEL-2507 to the SEL-T400L Time-Domain Line Protection or another SEL-2507 at 115.2 kbps to provide ultra-high-speed remote I/O. Millisecond MIRRORRED BITS messages transmit every 500 microseconds in these configurations—a four-fold increase over previous remote I/O applications.



Application Overview

The SEL-2507 communicates with a remote device using MIRRORRED BITS communications. Each contact input controls one of the eight transmit bits, while each of the eight receive bits controls an output contact. Provide control and indication at the remote device with the transmitted contact input status. The remote device can control the SEL-2507 output contacts in trip, close, and other schemes. With two optical fibers instead of 32 large-diameter wires, you'll save material and labor costs.



Featured Applications

Protection and Monitoring

Add simple bus protection using contact inputs and outputs from existing relays. Provide secure pilot communications for existing two- and three-terminal line applications. Add local or remote trip and close coil monitoring.

I/O Contact Expansion

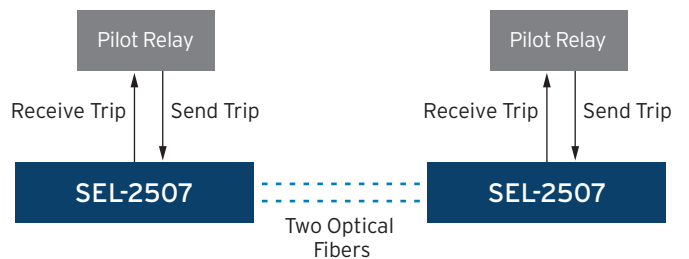
Economically extend the number of I/O contacts on SEL relays that are MIRRORRED BITS communications-compatible.

Comprehensive Device Compatibility

Add Millisecond MIRRORRED BITS or standard MIRRORRED BITS communications to any protective relay (digital or electromechanical) or other intelligent electronic devices (IEDs) for advanced communications-based protection.

Enhanced System Reliability

Reduce or eliminate ground potential rise between IEDs by using fiber-optic links instead of conventional switchboard wiring.



Teleprotection application—Millisecond MIRRORRED BITS communications using two optical fibers.

Features and Benefits

Remote I/O in ¼ the Time

Connect the SEL-2507 to the SEL-T400L or another SEL-2507 at 115.2 kbps to provide ultra-high-speed remote I/O. Millisecond MIRRORING BITS messages transmit every 500 microseconds in these configurations—a four-fold increase over previous remote I/O applications.

User-Configurable Labels

Provide clear indication of the system function and status.

Integration

Expand the I/O of SEL relays that are Millisecond MIRRORING BITS communications-compatible for I/O four times faster than traditional devices. Expand the I/O of SEL relays with standard MIRRORING BITS communications as well. Use the SEL-2507 with SEL Real-Time Automation Controllers (RTACs) for high-speed control applications.

Flexible Communications

Connect devices with the included EIA-232 port, or select the optional fiber-optic port that is compatible with the SEL-2812 Fiber-Optic Transceivers. The fiber-optic port enables electrically isolated communication between devices located up to 4 km apart.

Safety

Replace control wiring to outside cabinets with fiber-optic cable to eliminate paths for dangerous voltages. All I/O terminals are behind the panel.

Dependability

Use the communications monitoring feature to alarm if fiber-optic control cabling is damaged, disturbed, or altered. Fiber-optic links are far less susceptible to electrical interference.

Easy Installation and Service

Minimize downtime with the easy installation and service access of the compact two-rack-unit chassis. The SEL-2507 includes Screw-Terminal Connectorized® (STC) blocks for easy replacement of the unit.



SEL-2507 Specifications

General

Communications Port Options	ST® Connector Optical fiber: 50, 62.5, or 200 µm multimode Compatible transceiver: SEL-2812 Maximum recommended distance: 4 km 9-Pin D Connector EIA-232 wire (recommended only within same cabinet) Maximum recommended distance: 15 m
End-to-End Operate Time	115200 bps: 1 ms 38400 bps: 4 ms 19200 bps: 6 ms 9600 bps: 12 ms
High-Speed Digital Output Ratings	Make: 30 A Carry @ 70°C: 6 A Pickup time: <200 µs MOV protection: dc only Continuous: 330 Vdc Break L/R = 40 ms: 10 A
Digital Input Ratings	Nominal input current: 4 mA 125 Vdc: 105–150 Vdc (on); <75 Vdc (off) 250 Vdc: 210–300 Vdc (on); <150 Vdc (off)
Operating Temperature Range	–40°C to +85°C (–40 to +186°F)
Power Supply Ratings	48/125 V, 36–200 Vdc, or 85–140 Vac, 5 W max. 25/250 V, 85–350 Vdc, or 85–264 Vac, 5 W max.
Dimensions	Two rack units 88.9 mm H x 482.6 mm W x 236.2 mm D (3.5" x 19" x 9.3")

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